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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,406	07/09/2003	Antti Tolli	60091.00207	7947

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EXAMINER	
MILLER, BRANDON J	
ART UNIT	**PAPER NUMBER**
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/615,406	TOLLI ET AL.	
	Examiner	Art Unit	
	Brandon J. Miller	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marjelund et al. (US 2002/0105906 A1) in view of Koraitim et al. (US 6,370,117 B1).

Regarding claim 1 Marjelund teaches a traffic management method in a telecommunication system (see paragraph [0022]). Marjelund teaches a time slot (see paragraph [0024]). Marjelund teaches defining an amount of available capacity for a non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by a real-time use in a time slot (see paragraph (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of free paths in a time slot based on the paths reserved by the real-time use and the paths reserved by the non-real time use (see paragraph [0044]). Marjelund teaches calculating a path reservation rate for a time slot based on the number of free paths, the amount of available capacity for the non-real time use in the time slot and the number of paths in a time slot not reserved by real time use (see paragraphs [0030] – [0031]). Marjelund does not specifically teach dividing a time slot into a predetermined number of sub-blocks and averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate. Koraitim teaches dividing a time slot into a predetermined number of sub-blocks (see col. 4,

lines 18-21 & 30-35). Koraitim teaches averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate (see col. 4, lines 51-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include dividing a time slot into a predetermined number of sub-blocks and averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate because subdividing the time slot into sub-components would allow for an improved method of allocating time slots, thereby enhancing quality of service (see Koraitim, col. 2, lines 40-42).

Regarding claim 2 Marjelund teaches a traffic management method in a telecommunication system (see paragraph [0022]). Marjelund teaches a time slot (see paragraph [0024]). Marjelund teaches defining an amount of available capacity for a non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by a real-time use in a time slot (see paragraph (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of free paths in a time slot based on the paths reserved by the real-time use and the paths reserved by the non-real time use (see paragraph [0044]). Marjelund teaches calculating a path reservation rate for a time slot based on the number of free paths, the amount of available capacity for the non-real time use in the time slot and the number of paths in a time slot not reserved by real time use (see paragraphs [0030] – [0031]). Marjelund does not specifically teach dividing a time slot into a predetermined number of sub-blocks; averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate; and directing a transmission in a telecommunication system to less loaded cells or timeslots. Koraitim teaches dividing a time slot into a predetermined number of sub-blocks (see col. 4,

lines 18-21 & 30-35). Koraitim teaches averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate (see col. 4, lines 51-67). Koraitim teaches directing a transmission in a telecommunication system to less loaded cells or timeslots (see col. 5, lines 33-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to dividing a time slot into a predetermined number of sub-blocks; averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate; and directing a transmission in a telecommunication system to less loaded cells or timeslots because subdividing the time slot into sub-components would allow for an improved method of allocating time slots, thereby enhancing quality of service (see Koraitim, col. 2, lines 40-42).

Regarding claim 3 Marjelund and Koraitim teach a device as recited in claim 1 except for wherein the amount of available capacity for the non-real time use in a time slot is defined by using the equation recited in claim 3 of the present application. Marjelund does teach wherein the amount of available capacity for the non-real time use in a time slot is defined by using an equation (see paragraph [0031]). Although Marjelund does not teach the specific equation recited in claim 3 of the present application, the result of determining the amount of available capacity for non-real time use in a time slot is still obtained. Therefore, the equation amounts to a design choice that would have been obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 4 Marjelund and Koraitim teach a device as recited in claim 1 except for wherein the sub-block reservation rate for a time slot is defined by using the equation recited in claim 4 of the present application. Marjelund does teach a reservation rate defined by using a

difference equation (see paragraph [0031]). Although Marjelund does not teach the specific equation recited in claim 4 of the present application, the result of determining a reservation rate is still obtained. Therefore, the equation amounts to a design choice that would have been obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 5 Marjelund and Koraitim teach a device as recited in claim 1 except for wherein the average for determining a down link sub-block reservation rate is defined by using the equation recited in claim 5 of the present application. Koraitim does teach an average for determining a down link sub-block reservation rate based on an equation (see col. 4, lines 51-67). Although Koraitim does not teach the specific equation recited in claim 5 of the present application, the result of determining a down link sub-block reservation rate is still obtained. Therefore, the equation amounts to a design choice that would have been obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 6 Marjelund and Koraitim teach a device as recited in claim 5 and is rejected given the same reasoning as above.

Regarding claim 7 Koraitim teaches wherein the sub-blocks comprise temporary block flow sub-blocks (see col. 4, lines 25-37).

Regarding claim 8 Koraitim teaches averaging that is carried out for a group comprising time slots reserved for non-real time use in cell (see col. 4, lines 31-35 & 62-67).

Regarding claim 9 Marjelund teaches a network element (see paragraph [0022]). Marjelund teaches a time slot (see paragraph [0024]). Marjelund teaches defining an amount of available capacity for a non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by a real-time use in a time slot (see paragraph (see

paragraph [0024]). Marjelund teaches defining a number of paths reserved by non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of free paths in a time slot based on the paths reserved by the real-time use and the paths reserved by the non-real time use (see paragraph [0044]). Marjelund teaches calculating a path reservation rate for a time slot based on the number of free paths, the amount of available capacity for the non-real time use in the time slot and the number of paths in a time slot not reserved by real time use (see paragraphs [0030] – [0031]). Marjelund does not specifically teach dividing a time slot into a predetermined number of sub-blocks and averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate. Koraitim teaches dividing a time slot into a predetermined number of sub-blocks (see col. 4, lines 18-21 & 30-35). Koraitim teaches averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate (see col. 4, lines 51-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include dividing a time slot into a predetermined number of sub-blocks and averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate because subdividing the time slot into sub-components would allow for an improved method of allocating time slots, thereby enhancing quality of service (see Koraitim, col. 2, lines 40-42).

Regarding claim 10 Marjelund teaches a network element (see paragraph [0022]). Marjelund teaches a time slot (see paragraph [0024]). Marjelund teaches defining an amount of available capacity for a non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by a real-time use in a time slot (see paragraph (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by non-real time use

in a time slot (see paragraph [0024]). Marjelund teaches defining a number of free paths in a time slot based on the paths reserved by the real-time use and the paths reserved by the non-real time use (see paragraph [0044]). Marjelund teaches calculating a path reservation rate for a time slot based on the number of free paths, the amount of available capacity for the non-real time use in the time slot and the number of paths in a time slot not reserved by real time use (see paragraphs [0030] – [0031]). Marjelund does not specifically teach dividing a time slot into a predetermined number of sub-blocks; averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate; and directing a transmission in a telecommunication system to less loaded cells or timeslots. Koraitim teaches dividing a time slot into a predetermined number of sub-blocks (see col. 4, lines 18-21 & 30-35). Koraitim teaches averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate (see col. 4, lines 51-67). Koraitim teaches directing a transmission in a telecommunication system to less loaded cells or timeslots (see col. 5, lines 33-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to dividing a time slot into a predetermined number of sub-blocks; averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate; and directing a transmission in a telecommunication system to less loaded cells or timeslots because subdividing the time slot into sub-components would allow for an improved method of allocating time slots, thereby enhancing quality of service (see Koraitim, col. 2, lines 40-42).

Regarding claim 11 Marjelund and Koraitim teach a device as recited in claim 3 and is rejected given the same reasoning as above.

Regarding claim 12 Marjelund and Koraitim teach a device as recited in claim 4 and is rejected given the same reasoning as above.

Regarding claim 13 Marjelund and Koraitim teach a device as recited in claim 5 and is rejected given the same reasoning as above.

Regarding claim 14 Marjelund and Koraitim teach a device as recited in claim 5 and is rejected given the same reasoning as above.

Regarding claim 15 Marjelund and Koraitim teach a device as recited in claim 7 and is rejected given the same reasoning as above.

Regarding claim 16 Marjelund and Koraitim teach a device as recited in claim 8 and is rejected given the same reasoning as above.

Regarding claim 17 Marjelund teaches a network element (see paragraph [0022]). Marjelund teaches a time slot (see paragraph [0024]). Marjelund teaches defining an amount of available capacity for a non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by a real-time use in a time slot (see paragraph (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of free paths in a time slot based on the paths reserved by the real-time use and the paths reserved by the non-real time use (see paragraph [0044]). Marjelund teaches calculating a path reservation rate for a time slot based on the number of free paths, the amount of available capacity for the non-real time use in the time slot and the number of paths in a time slot not reserved by real time use (see paragraphs [0030] – [0031]). Marjelund does not specifically teach dividing a time slot into a predetermined number of sub-blocks and averaging a sub-block reservation rate for a time slot to

determine a down link sub-block reservation rate. Koraitim teaches dividing a time slot into a predetermined number of sub-blocks (see col. 4, lines 18-21 & 30-35). Koraitim teaches averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate (see col. 4, lines 51-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include dividing a time slot into a predetermined number of sub-blocks and averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate because subdividing the time slot into sub-components would allow for an improved method of allocating time slots, thereby enhancing quality of service (see Koraitim, col. 2, lines 40-42).

Regarding claim 18 Marjelund teaches a network element (see paragraph [0022]). Marjelund teaches a time slot (see paragraph [0024]). Marjelund teaches defining an amount of available capacity for a non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by a real-time use in a time slot (see paragraph (see paragraph [0024]). Marjelund teaches defining a number of paths reserved by non-real time use in a time slot (see paragraph [0024]). Marjelund teaches defining a number of free paths in a time slot based on the paths reserved by the real-time use and the paths reserved by the non-real time use (see paragraph [0044]). Marjelund teaches calculating a path reservation rate for a time slot based on the number of free paths, the amount of available capacity for the non-real time use in the time slot and the number of paths in a time slot not reserved by real time use (see paragraphs [0030] – [0031]). Marjelund does not specifically teach dividing a time slot into a predetermined number of sub-blocks; averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate; and directing a transmission in a

telecommunication system to less loaded cells or timeslots. Koraitim teaches dividing a time slot into a predetermined number of sub-blocks (see col. 4, lines 18-21 & 30-35). Koraitim teaches averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate (see col. 4, lines 51-67). Koraitim teaches directing a transmission in a telecommunication system to less loaded cells or timeslots (see col. 5, lines 33-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to dividing a time slot into a predetermined number of sub-blocks; averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate; and directing a transmission in a telecommunication system to less loaded cells or timeslots because subdividing the time slot into sub-components would allow for an improved method of allocating time slots, thereby enhancing quality of service (see Koraitim, col. 2, lines 40-42).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Watanabe et al. U.S Patent No. 6,714,546 B1 discloses an ATM cell multiplexer and scheduling method therefor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J. Miller whose telephone number is 571-272-7869. The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 9, 2007

GEORGE ENG
SUPERVISORY PATENT EXAMINER